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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,393	11/04/2003	Ramesh M. Santhanakrishnan	112025-0531	5792

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EXAMINER
JONES, PRENELL P

ART UNIT	PAPER NUMBER
2668	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2-4,9,13-15,21,22 and 24-54* is/are allowed.

6)☒ Claim(s) *1,5-8,10-12,16-20 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Response to Arguments

1.   Applicant's arguments with respect to claims 1-54, wherein Applicant argues that cited

art is silent on *"establishing a limit that indicates a number of forwarding database entries*

that ma be associated with the VLAN," have been considered but are moot in view of the new

ground(s) of rejection.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a
> whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

2.   Claims 1, 6, 7, 12, 17, 18, 20 and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hoffman et al in view of Bronstein et al.

Regarding claims 1, 6, 7, 12, 17, 18, 20 and 23, Hoffman discloses (Figs. 2-4 and 6, col. 5, line

6-51, col. 9, line 28 thru col. 10, line 21, col. 11, line 18-67) an apparatus that handles

(controls/manages) congestion (flooding) associated with a CPU, VLAN, switching element

(intermediary point between CPU and forwarding database), forwarding logic and forwarding

memory (forwarding database memory/CAM), wherein packet data entries are stored,

forwarding logic that screens packets to determine whether the packet is encapsulated by

SNAP or packet is tagged by a VLAN, utilization of threshold logic, threshold registers

(determining limit), destination search matches a known VLAN or unknown VLAN entry, (col. 16, line 15-42) suggested VLAN utilization, (col. 19, line 55 thru col. 20, line 67, col. 21, line 66 thru col. 22, line 67) a first and second programmable priority threshold value is determined (establishing limit), (col. 22, line 51-67) congestion logic (flood control) randomly discard packets attempting to enter queue (database) after the queue's programmable threshold register associated with each queue is met or exceeded, (col. 7, line 21-23) eliminate amount of flooding needed (disabling flooding). Hoffman is silent on a limit number of forwarding database entries. In analogous art, Bronstein discloses forwarding data as entries wherein the forwarding tables are used for storing MAC addresses as associate with VLANs, forwarding tables include hash functions, whereby a limit number (128K entries) is associated with the data entries capable of being stored in forwarding table (Abstract, Fig. 5, col. 9, line 30-47, col. 10, line 5-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement establishing a limit to the allowed number of entries in a forwarding database as taught by Bronstein with the teachings of Hoffman for the purpose of further minimizing or eliminating flooding.

3.   Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al and Bare as applied to claims 1, 6, 7, 12 above, and further in view of Bare.

Regarding claims 5 and 16, as indicated above, Hoffman discloses (Figs. 2-4 and 6, col. 5, line 6-51, col. 9, line 28 thru col. 10, line 21, col. 11, line 18-67) an apparatus that handles (controls/manages) congestion (flooding) associated with a CPU, VLAN, switching element (intermediary point between CPU and forwarding database), forwarding logic and forwarding memory (forwarding database memory/CAM), wherein packet data entries are stored,

forwarding logic that screens packets to determine whether the packet is encapsulated by

SNAP or packet is tagged by a VLAN, utilization of threshold logic, threshold registers

(determining limit), destination search matches a known VLAN or unknown VLAN entry, (col. 16,

line 15-42) suggested VLAN utilization, (col. 19, line 55 thru col. 20, line 67, col. 21, line 66 thru

col. 22, line 67) a first and second programmable priority threshold value is determined

(establishing limit), (col. 22, line 51-67) congestion logic (flood control) randomly discard

packets attempting to enter queue (database) after the queue's programmable threshold

register associated with each queue is met or exceeded, (col. 7, line 21-23) eliminate amount of

flooding needed (disabling flooding), and Bronstein discloses forwarding data as entries wherein

the forwarding tables are used for storing MAC addresses as associate with VLANs, forwarding

tables include hash functions, whereby a limit number (128K entries) is associated with the data

entries capable of being stored in forwarding table (Abstract, Fig. 5, col. 9, line 30-47, col. 10,

line 5-25). However, Hoffman and Bronstein fail to teach or suggest logging a message that is

accessible to intermediate point. In analogous art, (Abstract, col. 8, line 40-55, col. 20, line 3-

14) Bare discloses MAC address learning, offloading and flooding of packets associated in a

VLAN environment, wherein the function of forwarding packet data to memory is implemented,

and when ports are blocked (flooded) a message is logged and accessible to system manager

and any network management station. Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to implement logging a message associated with a

communication system that implements forwarding databases (memory/queue) and associated

entries as taught by Bare with the combined teachings of Hoffman and Bronstein's

communication system which also implements forwarding databases in a VLAN environment for

the purpose of further managing the balancing of packet data in a network where flooding is an

issue.

4.   Claims 8, 10, 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Hoffman et al and Bronstein et al as applied to claims 1, 6, 7, 12, 17 and 18 above, and further
in view of Gleeson.

Regarding claims 8, 10, 11 and 19, as indicated above, Hoffman and Bronstein discloses (Figs.
2-4 and 6, col. 5, line 6-51, col. 9, line 28 thru col. 10, line 21, col. 11, line 18-67) an apparatus
that handles (controls/manages) congestion (flooding) associated with a CPU, VLAN and
switching element implementing forwarding database. However, Hoffman and Bronstein fail to
teach or suggest disabling learning for VLAN. In analogous art, Gleeson discloses (Abstract,
Fig. 3, col. 3, line 18 thru col. 6, line 64) a packet data communication system that includes a
network switch associated with VLAN characteristics, whereby the switch implements
forwarding databases, the processing of packets as associated with is managed as well as
packing flooding at registered ports, wherein the MAC perform operations on packets entering
and leaving switching system, wherein operations performed including forwarding database
entries and "learning", the disabling of the learning function keeps the MAC address from being
learned and discontinue the adding of entering data to the database. Gleeson further discloses
(col. 4, line 34 thru col. 5, line 53, col. 6, line 23 thru col. 7, line 47) determining whether to
disable the learning with respect to the comparing entries in the database associated with the
MAC address and that matches source address and destination address, and if comparisons do
not match, entries of source address and destination address are entered into the database
after the learning process is performed. Therefore it would have been obvious to one of ordinary
skill in the art at the time of the invention to be motivated to implement disabling the "learning"

as taught by Gleeson with the combined teachings of Hoffman and Bronstein for the purpose of

further managing flooding associated in a VLAN packet data communication system.

Allowable Subject Matter

1.   Claim 2-4, 9, 13-15, 21 and 22 and 24-54 are allowed over prior art.

2.   The following is a statement of reasons for the indication of allowable subject matter:

Although the prior art discloses an apparatus that handles (controls/manages) congestion

associated with a CPU, VLAN, switching element (intermediary point between CPU and

forwarding database), forwarding logic and forwarding memory (forwarding database

memory/CAM), wherein packet data entries are stored, forwarding logic that screens packets to

determine whether the packet is encapsulated by SNAP or packet is tagged by a VLAN, a

packet data communication system whereby flooding is managed in a VLAN environment with

the help of learning process in associated with the forwarding process along with forwarding

databases entries, they fail to teach or suggest the database entries containing a MAC

threshold along with a MAC count that indicate the number of database entries associated with

the VLAN, wherein the MAC count matches the MAC limit and a packet associated with VLAN

determining if VLAN is shut down.

        Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The

examiner can normally be reached on 9:00-5:30.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

October 23, 2005

CHIEH M. FAN
PRIMARY EXAMINER